

Listing of Claims

1. - 80. (cancelled)

1 81. (new) A member comprising

2 a body,

3 the body having two spaced-apart ends and at least a portion
4 comprising a generally cylindrical portion, the generally cylindrical portion
5 having a circumference, the body having an end surface at one of the two
6 spaced-apart ends,

7 a recess formed in and extending around the end surface of the
8 body, the recess comprising a bottom wall and two spaced-apart side walls
9 extending from the bottom wall, the bottom wall and each of the two spaced-
10 apart side walls defined by a portion of the body, the recess having an opening
11 above the bottom wall between the two spaced-apart side walls, the opening
12 located at the end surface,

13 radio frequency identification apparatus with integrated circuit
14 apparatus and antenna apparatus within the recess, and

15 the antenna apparatus within the recess encircling the
16 circumference of the cylindrical portion of the body.

1 82. (new) The member of claim 81 wherein

2 the body is hollow.

1 83. (new) The member of claim 81 wherein

2 a protector in the recess covers the radio frequency identification
3 apparatus.

1 84. (new) The member of claim 83 wherein the protector is a cap ring.

1 85. (new) The member of claim 81 wherein the body comprises a pipe.

1 86. (new) The member of claim 81 wherein the two spaced-apart ends
2 comprise a first end and a second end and wherein the first end has a threaded portion
3 and an unthreaded portion and wherein the recess is adjacent the unthreaded portion.

1 87. (new) The member of claim 81 wherein

2 the member is a piece of drill pipe with an externally threaded pin

3 end spaced-apart from an internally threaded box end, and the body is generally
4 cylindrical and hollow with a flow channel therethrough from the pin end to the
5 box end,

6 the pin end having a pin end portion with the recess therearound,
7 and

8 the radio frequency identification apparatus within the recess and
9 the antenna apparatus encircling the pin end portion.

1 88. (new) The member of claim 87 wherein a protector in the recess covers the
2 radio frequency identification apparatus therein.

1 89. (new) The member of claim 81 further comprising

2 the member is a piece of drill pipe with an externally threaded pin
3 end spaced-apart from an internally threaded box end, and the body is generally
4 cylindrical and hollow with a flow channel therethrough from the pin end to the
5 box end,

6 the box end having a box end portion having the recess therein,
7 the radio frequency identification apparatus within the recess with
8 the antenna encircling the box end portion.

1 90. (new) The member of claim 81 wherein the generally cylindrical portion is
2 part of an item from the group consisting of pipe, drill pipe, casing, drill bit, tubing,
3 stabilizer, centralizer, cementing plug, buoyant tubular, thread protector, downhole
4 motor, whipstock, mill, and torus.

1 91. (new) The member of claim 81 further comprising

2 the member comprising a piece of pipe with a pin end, the pin end
3 having a recess therein, and sensible indicia in the recess.

1 92. (new) The member of claim 91 wherein the sensible indicia is from the
2 group consisting of raised portions, indented portions, visually sensible indicia, spaced-
3 apart indicia, numeral indicia, letter indicia, and colored indicia.

1 93. (new) A tubular member comprising

2 a body with a first end spaced-apart from a second end, the first
3 end having an end surface and comprising a pin end having a recess in the first
4 end and identification apparatus in the recess,

5 the recess formed in and extending around the end surface of the
6 body, the recess comprising a bottom wall and two spaced-apart side walls
7 extending from the bottom wall, the bottom wall and each of the two spaced-
8 apart side walls defined by a portion of the body, the recess having an opening
9 above the bottom wall between the two spaced-apart side walls, the opening
10 located at the end surface, and

11 a protector in the recess protecting the identification apparatus
12 therein.

1 94. (new) A method for sensing an identification apparatus in a member, the
2 member comprising a body, the body having two spaced-apart ends and at least a
3 portion comprising a generally cylindrical portion, the generally cylindrical portion
4 having a circumference, the body having an end surface at one of the two spaced-
5 apart ends, a recess formed in and extending around the end surface of the body, the
6 recess comprising a bottom wall and two spaced-apart side walls extending from the
7 bottom wall, the bottom wall and each of the two spaced-apart side walls defined by
8 a portion of the body, the recess having an opening above the bottom wall between
9 the two spaced-apart side walls, the opening located at the end surface, the wave
10 energizable identification apparatus comprising radio frequency identification apparatus
11 with integrated circuit apparatus and antenna apparatus within the recess, and the
12 antenna apparatus encircling a portion of the body, the method including

13 energizing the radio frequency identification apparatus by directing
14 energizing energy to the antenna apparatus,

15 the radio frequency identification apparatus upon being energized
16 producing a signal,

17 positioning the member adjacent sensing apparatus, and

18 sensing with the sensing apparatus the signal produced by the
19 radio frequency identification apparatus.

1 95. (new) The method of claim 94 wherein the sensing apparatus is on an item
2 from the group consisting of rig, elevator, spider, derrick, tubular handler, tubular
3 manipulator, tubular rotator, top drive, mouse hole, powered mouse hole, or floor.

1 96. (new) The method of claim 95 wherein the sensing apparatus is in

2 communication with and is controlled by computer apparatus, the method further
3 comprising

4 controlling the sensing apparatus with the computer apparatus.

1 97. (new) The method of claim 95 wherein the energizing is effected by
2 energizing apparatus in communication with and controlled by computer apparatus,
3 the method further comprising

4 controlling the energizing apparatus with the computer apparatus.

1 98. (new) The method of claim 95 wherein the signal is an identification signal
2 identifying the member and the sensing apparatus produces and conveys a
3 corresponding signal to computer apparatus, the computer apparatus including a
4 programmable portion programmed to receive and analyze the corresponding signal,
5 and the computer apparatus for producing an analysis signal indicative of accepting
6 or rejecting the member based on said analysis, the method further comprising

7 producing an identification signal received by the sensing
8 apparatus,

9 the sensing apparatus producing a corresponding signal indicative
10 of identification of the member and conveying the corresponding signal to the
11 computer apparatus, and

12 the computer apparatus analyzing the corresponding signal and
13 producing the analysis signal.

1 99. (new) The method of claim 98 wherein the computer apparatus conveys
2 the analysis signal to handling apparatus for handling the member, the handling
3 apparatus operable to accept or reject the member based on the analysis signal.

1 100. (new) The method of claim 98 wherein the member is a tubular member
2 for use in well operations and the handling apparatus is a tubular member handling
3 apparatus.

1 101. (new) The method of claim 100 wherein the tubular member handling
2 apparatus is from the group consisting of tubular manipulator, tubular rotator, top
3 drive, tong, spinner, downhole motor, elevator, spider, powered mouse hole, and pipe
4 handler.

1 102. (new) The method of claim 99 wherein the handling apparatus has

2 handling sensing apparatus thereon for sensing a signal from the wave energizable
3 identification apparatus, and wherein the handling apparatus includes communication
4 apparatus in communication with computer apparatus, the method further comprising
5 sending a handling signal from the communication apparatus to the
6 computer apparatus corresponding to the signal produced by the wave
7 energizable identification apparatus.

1 103. (new) The method of claim 100 wherein the computer apparatus controls
2 the handling apparatus.

1 104. (new) The method of claim 94 wherein the member is a tubular member
2 and wherein the sensing apparatus is connected to and in communication with a
3 tubular inspection system, the method further comprising

4 conveying a secondary signal from the sensing apparatus to the
5 tubular inspection system, the secondary signal corresponding to the signal
6 produced by the wave energizable identification apparatus.

1 105. (new) The method of claim 102 wherein the signal produced by the wave
2 energizable identification apparatus identifies the tubular member.

1 106. (new) A method for handling drill pipe on a drilling rig, the drill pipe
2 comprising a plurality of pieces of drill pipe, each piece of drill pipe comprising a body
3 having an end surface and with an externally threaded pin end spaced-apart from an
4 internally threaded box end, the body having a flow channel therethrough from the pin
5 end to the box end; the body having a recess, the recess formed in and extending
6 around the end surface of the body, the recess comprising a bottom wall and two
7 spaced-apart side walls extending from the bottom wall, the bottom wall and each of
8 the two spaced-apart side walls defined by a portion of the body, the recess having
9 an opening above the bottom wall between the two spaced-apart side walls, the
10 opening located at the end surface, radio frequency identification apparatus with
11 integrated circuit apparatus and antenna apparatus within the recess with the antenna
12 apparatus encircling the pin end, the method including

13 energizing the radio frequency identification apparatus by directing
14 energizing energy to the antenna apparatus,

15 the radio frequency identification apparatus upon being energized

16 producing a signal,

17 positioning each piece of drill pipe adjacent sensing apparatus, and
18 sensing with the sensing apparatus a signal produced by each
19 piece of drill pipe's radio frequency identification apparatus.

1 107. (new) The method of claim 106 wherein the sensing apparatus is in
2 communication and is controlled by computer apparatus and wherein the radio
3 frequency identification apparatus produces an identification signal receivable by the
4 sensing apparatus, and wherein the sensing apparatus produces a corresponding
5 signal indicative of the identification of the particular piece of drill pipe, said
6 corresponding signal conveyable from the sensing apparatus to the computer
7 apparatus, the method further comprising

8 controlling the sensing apparatus with the computer apparatus,
9 wherein the energizing is effected by energizing apparatus in
10 communication with and controlled by computer apparatus, the method further
11 comprising

12 controlling the energizing apparatus with the computer apparatus,
13 the computer apparatus including a programmable portion
14 programmed to receive and analyze the corresponding signal, the computer
15 apparatus for producing an analysis signal indicative of accepting or rejecting
16 the particular piece of drill pipe based on said analysis, the method further
17 comprising

18 the computer apparatus analyzing the corresponding signal and
19 producing the analysis signal, and

20 the computer apparatus conveying the analysis signal to handling
21 apparatus for handling the member, the handling apparatus operable to accept
22 or reject the member based on the analysis signal.

1 108. (new) A method for making a tubular member, the method comprising
2 making a body for a tubular member, the body having a first end
3 spaced-apart from a second end, the first end having an end surface,
4 forming a recess around the first end of the body, the recess sized
5 and shaped for receipt therein of wave energizable identification apparatus, and

6 the recess formed in and extending around the end surface of the
7 first end, the recess comprising a bottom wall and two spaced-apart side walls
8 extending from the bottom wall, the bottom wall and each of the two spaced-
9 apart side walls defined by a portion of the body, the recess having an opening
10 above the bottom wall between the two spaced-apart side walls, the opening
11 located at the end surface,

1 109. (new) The method of claim 108 including
2 installing wave energizable identification apparatus in the recess.

1 110. (new) The method of claim 109 further comprising
2 installing a protector in the recess over the wave energizable
3 identification apparatus.

1 111. (new) The method of claim 110 wherein the tubular member is a piece
2 of drill pipe with an externally threaded pin end spaced-apart from an internally
3 threaded box end, the recess is a recess encircling the body, and the wave energizable
4 identification apparatus has antenna apparatus, the method further comprising
5 positioning the antenna apparatus around and within the recess.

1 112. (new) A method for enhancing a tubular member, the tubular member
2 having a generally cylindrical body with a first end spaced-apart from a second end,
3 the first end having an end surface, the method comprising

4 forming a circular recess in the first end of the tubular member, the
5 recess sized and shaped for receipt therein of wave energizable identification
6 apparatus, the wave energizable identification apparatus including antenna
7 apparatus with the antenna apparatus positionable around the circular recess,
8 the circular recess formed in and extending around the end surface
9 of the first end, the recess comprising a bottom wall and two spaced-apart side
10 walls extending from the bottom wall, the bottom wall and each of the two
11 spaced-apart side walls defined by a portion of the body, the recess having an
12 opening above the bottom wall between the two spaced-apart side walls, the
13 opening located at the end surface.

1 113. (new) A member comprising
2 a body,

3 the body having two spaced-apart ends and at least a portion
4 comprising a generally cylindrical portion, the generally cylindrical portion
5 having a circumference, the two spaced-apart ends comprising a first end and
6 a second end, the first end having an end surface,

7 a recess formed in and extending around the end surface of the
8 first end, the recess having a recess opening at the end surface,

9 wave energizable identification apparatus within the recess,
10 wherein the first end has a threaded portion and an unthreaded
11 portion, and

12 wherein the recess is adjacent the unthreaded portion.

1 114. (new) A member comprising

2 a body,

3 the body having a shoulder with an end surface and two spaced-
4 apart ends and at least a portion comprising a generally cylindrical portion, the
5 generally cylindrical portion having a circumference,

6 a recess formed in and extending around the shoulder of the body,
7 the recess comprising a bottom wall and two spaced-apart side walls extending
8 from the bottom wall, the bottom wall and each of the two spaced-apart side
9 walls defined by a portion of the body, the recess having an opening above the
10 bottom wall between the two spaced-apart side walls, the opening located at
11 the end surface of the shoulder,

12 wave energizable identification apparatus within the recess,

13 the wave energizable identification apparatus including antenna
14 apparatus within the recess, the antenna apparatus for receiving energizing
15 energy for energizing the wave energizable identification apparatus.